CLAIMS

1. A method for the removal of airborne molecular contaminants (AMC) from a surface comprising the steps of:

purifying a purge gas to produce a purified purge gas, wherein the purge gas comprises water and the purified purge gas has an AMC concentration less than about 1 part per billion (ppb) on a volume basis;

contacting at least a portion of the surface with the purified purge gas;

producing a contaminated purge gas by transferring a portion of the contamination from the surface into the purified purge gas; and

removing the contaminated purge gas from the surface.

2. The method as in claim 1, wherein the steps are repeated until said contaminant concentration in the contaminated purge gas is below about 100 parts per trillion (ppt) on a volume basis.

3. The method as in claim 1, wherein the purified purge gas has a contaminant concentration of less than about 10 ppt AMC on a volume basis.

4. The method as in claim 1, wherein the purified purge gas has a contaminant concentration of less than about 1 ppt AMC on a volume basis.

5. The method as in claim 1, wherein the water comprises 100 ppm to 2% by volume.

6. The method as in claim 1 further comprising purging of the device with an inert gas after removing said contaminated gas from said device.

7. The method as in claim 6, wherein said inert gas is selected from the group consisting of nitrogen, argon, nobel gases and methane.

8. The method of claim 1, wherein the purified purge gas further comprises oxygen.

9. The method of claim 8, wherein the oxygen comprises about 1% to about 25% on a volume basis.

10. The method as in claim 1, wherein the surface comprises an interior surface of a device wherein the device encloses a space.

11. A method as described in claim 10, wherein the device encloses at least one silicon substrate.